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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Stanley Y. Hobbs et al.	§	Group Art Unit: 2123
Serial No.: 09/547,243	§	Examiner: Garcia Otero, E.
Filed: April 11, 2000	§	
For: Method, System, and Program Product for Enabling Design of Products Having a Visual Effect	§	Atty. Docket: GERD:0385/YOD RD27538-4

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January 4, 2005 — Date
Brent R. Knight

APPEAL BRIEF PURSUANT TO 37 C.F.R. §§ 41.31 AND 41.37

This Appeal Brief is being filed in furtherance to the Notice of Appeal mailed on October 29, 2004, and received by the Patent and Trademark Office on November 4, 2004.

1. REAL PARTY IN INTEREST

The real party in interest is General Electric Company, the Assignee of the above-referenced application by virtue of the Assignment recorded at reel 010754, frame 0399, and recorded on April 11, 2000. General Electric Company, the Assignee of the above-referenced application, as evidenced by the documents mentioned above, will be directly affected by the Board's decision in the pending appeal.

2. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any other appeals or interferences related to this Appeal. The undersigned is Appellants' legal representative in this Appeal.

3. STATUS OF CLAIMS

Claims 1-72 are currently pending, and claims 1-72 are currently under final rejection and, thus, are the subject of this appeal.

4. STATUS OF AMENDMENTS

Appellants have not submitted any amendments subsequent to the Final Office Action mailed on July 29, 2004.

5. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to product design, and more particularly, to a method and system for enabling design of products having visual effects. *See* Application, page 1, lines 5-6. As an example, colored plastics may include visual effects, such as reflective flakes of metal or glass, which create a speckled appearance. *See id.* at page 1, lines 7-11.

Currently, customers can select from a limited number of manufacturer-developed colored plastics having visual effects. *See id.* at page 1, lines 17-18. Any deviations from the manufacturer-developed colored plastics, would involve a trial and error approach of trying different concentrations of materials to produce a visual effect. *See id.* at page 1, lines 18-20. This results in the customer traveling to the manufacturer to view the resulting plastics with visual effects, which is a costly and time-consuming process. *See id.* at page 1, lines 20-24. A more efficient technique for enabling customers to design visual effects had not been developed prior to the present technique.

Appellants provide a method for enabling design of a product having a visual effect caused by an additive, which may include obtaining information relating to the

additive, and providing a representation of the product having the visual effect based on the information relating to the additive. Specifically, the present technique provides a visual effect, which may include speckle, metallic, pealescense, fluorescence, angular metamerism, granite, stone, brick, and combination thereof. *See id.* at page 3, lines 22-26. In one aspect, a first computing unit 120 and a second computing unit 140 are coupled together via a communications network 160. *See id.* at Fig. 1; page 4, lines 1–18. The first computing unit 120 may include a monitor calibrated with information relating to a color for a product having a visual effect. *See id.* at Fig. 2, page 5, lines 24-27. With the information relating to a color for a product from a customer, a representation of the product having the visual effect is produced at the first computing unit 120. *See id.* at page 5, line 27 – page 6, line 7. As a result, a customer may order the customized visual effect without the need to travel to the manufacturer and without resort to the trail and error approach. *See id.*

With regard to the exemplary embodiment set forth in independent claim 1, discussions of the recited features can be found at least in the below cited locations of the specification and drawings. An embodiment in accordance with the present invention relates to a computer-implemented method for enabling design of a product having a visual effect caused by an additive. *See, e.g.*, Application, page 2, lines 3-13; page 3, lines 22-26. The method includes obtaining information relating to the additive. *See, e.g.*, Application; Figs. 2-3, page 5, line 24 to page 6, line 21. Also, the method includes providing a representation of the product having the visual effect based on the information relating to the additive. *See, e.g.*, Application; Figs. 3-9, page 7, line 12 to page 10, line 14; page 13, line 22 to page 16, line 20.

With regard to the exemplary embodiment set forth in independent claim 12, discussions of the recited features can be found at least in the below cited locations of the specification and drawings. An embodiment in accordance with the present invention relates to a method for enabling design of product having a visual effect caused by an

additive. *See, e.g.*, Application, page 2, lines 3-13; page 3, lines 22-26. The method includes obtaining information relating to the additive from a first user at a first computing unit 120, 122, 124, 140 coupled via a communication network 160 to a second computing unit 120, 122, 124, 140. *See, e.g.*, Application; Figs. 1-3, page 4, line 1 to page 6, line 21. Also, the method includes providing from the second computing unit 120, 122, 124, 140 a representation of the product having the visual effect for display on the first computing unit 120, 122, 124, 140 based on the information relating to the additive. *See, e.g.*, Application; Figs. 3-9, page 7, line 12 to page 10, line 14; page 13, line 22 to page 16, line 20.

With regard to the exemplary embodiment set forth in independent claim 25, discussions of the recited features can be found at least in the below cited locations of the specification and drawings. An embodiment in accordance with the present invention relates to a system for enabling design of a product having a visual effect caused by an additive. *See, e.g.*, Application, page 2, lines 3-13; page 3, lines 22-26. The system includes a processor adapted to obtain information relating to the additive. *See, e.g.*, Application; Figs. 2-3, page 5, line 24 to page 6, line 21. Also, the processor is adapted to provide a representation of the product having the visual effect based on the information relating to the additive. *See, e.g.*, Application; Figs. 3-9, page 7, line 12 to page 10, line 14; page 13, line 22 to page 16, line 20.

With regard to the exemplary embodiment set forth in independent claim 36, discussions of the recited features can be found at least in the below cited locations of the specification and drawings. An embodiment in accordance with the present invention relates to a system for enabling design of product having a visual effect caused by an additive. *See, e.g.*, Application, page 2, lines 3-13; page 3, lines 22-26. The system includes a means for obtaining information relating to the additive from a first user at a first computing unit 120, 122, 124, 140 coupled via a communications network 160 to a second computing unit 120, 122, 124, 140. *See, e.g.*, Application; Figs. 1-3, page 4, line 1 to page 6, line 21. Also, the system includes a means for providing from the second computing unit

120, 122, 124, 140 a representation of the product having the visual effect for display on the first computing unit 120, 122, 124, 140 based on the information relating to the additive. *See, e.g.*, Application; Figs. 3-9, page 7, line 12 to page 10, line 14; page 13, line 22 to page 16, line 20.

With regard to the exemplary embodiment set forth in independent claim 49, discussions of the recited features can be found at least in the below cited locations of the specification and drawings. An embodiment in accordance with the present invention relates to a program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for enabling design of a product having a visual effect caused by an additive. *See, e.g.*, Application, page 2, lines 3-13; page 3, lines 22-26. The method includes obtaining information relating to the additive. *See, e.g.*, Application; Figs. 2-3, page 5, line 24 to page 6, line 21; page 17, lines 19-25. Also, the method includes providing a representation of the product having the visual effect based on the information relating to the additive. *See, e.g.*, Application; Figs. 3-9, page 7, line 12 to page 10, line 14; page 13, line 22 to page 16, line 20; page 17, lines 19-25.

With regard to the exemplary embodiment set forth in independent claim 60, discussions of the recited features can be found at least in the below cited locations of the specification and drawings. An embodiment in accordance with the present invention relates to an article of manufacture. The article includes a computer usable medium having computer readable program code means embodied therein for enabling design of a product having a visual effect caused by an additive. *See, e.g.*, Application, page 2, lines 3-13; page 3, lines 22-26. Computer readable program code means causes a first computing unit 120, 122, 124, 140 to obtain information relating to the additive from a first user at the first computing unit 120, 122, 124, 140 coupled via a communications network 160 to a second computing unit 120, 122, 124, 140. *See, e.g.*, Application; Figs. 1-3, page 4, line 1 to page 6, line 21. Also, computer readable program code means causes the second computing unit 120, 122, 124, 140 to provide a representation of the product having the visual effect for

display on the first computing unit 120, 122, 124, 140 based on the information relating to the additive. *See, e.g.*, Application; Figs. 3-9, page 7, line 12 to page 10, line 14; page 13, line 22 to page 16, line 20.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

First Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's first ground of rejection in which the Examiner rejected claim 1 under 35 U.S.C. § 103(a) as being rendered obvious by U.S. Patent No. 6,166,814 to Pringle ("Pringle" or" the Pringle reference") in view of certain passages from Computer Images of Time-Life Books Series on Understanding Computers ("the Computer Images reference").

Second Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's second ground of rejection in which the Examiner rejected claims 2-11 and 49-59 under 35 U.S.C. § 103(a) as being rendered obvious by Pringle in view of Computer Images, U.S. Patent No. 5,593,773 to McKay et al. ("McKay" or "the McKay reference"), and certain passages from Computer Security of Time-Life Books Series on Understanding Computers ("the Computer Security reference").

Third Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's third ground of rejection in which the Examiner rejected claims 12 and 25 under 35 U.S.C. § 103(a) as being rendered obvious by Pringle in view of Computer Images and certain passages from Communications of Time-Life Books Series on Understanding Computers ("the Communications reference").

Fourth Ground of Rejection for Review on Appeal:

Appellants respectfully urge the Board to review and reverse the Examiner's fourth ground of rejection in which the Examiner rejected claims 13-24, 26-35, 36-48,

and 60-72 under 35 U.S.C. § 103(a) as being rendered obvious by Pringle in view of the Computer Images, McKay, Computer Security, and Communications references.

7. ARGUMENT

As discussed in detail below, the Examiner has improperly rejected the pending claims. Further, the Examiner has misapplied long-standing and binding legal precedents and principles in rejecting the claims under Section 103. Accordingly, Appellants respectfully request full and favorable consideration by the Board, as Appellants strongly believe that claims 1-72 are currently in condition for allowance.

A. Visual Effect Has Special Meaning.

As a preliminary matter, each of the independent claims 1, 12, 25, 36, 49 and 60 recites a "visual effect," which is a term described and defined throughout the present application. In an application, an applicant may be his or her own lexicographer as long as the meaning assigned to the term is not repugnant to the term's well-known usage. *In re Hill*, 73 U.S.P.Q. 482 (C.C.P.A. 1947). Any special meaning assigned to a term "must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention." *Multiform Desiccants Inc. v. Medzam Ltd.*, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998). Under M.P.E.P. §2111.01, when the specification provides definitions for terms appearing in the claims, the specification should be used in interpreting claim language. *In re Vogel*, 164 USPQ 619, 622 (C.C.P.A. 1970).

Based on these legal precedents, the term "visual effect" may have a special meaning if the term is clearly defined by the Appellants. The present application defines the term "visual effect" to include "speckled, metallic, pearlescense, fluorescence, angular metamerism (e.g., the phenomenon where two colors appear to match under one light source, yet do not match under a different light source), granite, stone, brick, and the like appearances, as well as a translucent capability, and combinations thereof." *See* Application, p. 3, lines 22-26. Based on this definition, Appellants submit that the term

"visual effect" has an explicit definition that should control interpretation of the term as it is used in the claims. As such, Appellants believe that the definition for "visual effect" is set out with reasonable clarity, deliberateness and precision so as to give one of ordinary skill in the art notice of the meaning of this term. Accordingly, the term "visual effect" is defined within the application and has a special meaning in the claims.

B. First Ground of Rejection:

The Examiner rejected claim 1 under 35 U.S.C. § 103(a) as being unpatentable over the Pringle reference in view of the Computer Images reference. Accordingly, because Appellants traverse the rejection, Appellants request the Board overturn the rejection and allow the rejected claim 1.

1. Legal Precedent and Standard for a *Prima Facie* Obviousness Rejection.

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes all of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988).

2. Claim 1 is Patentable over Pringle and Computer Images.

Independent claim 1 recites:

> A computer-implemented method for enabling design of a product having a visual effect caused by an additive, the method comprising:
>
> obtaining information relating to the additive; and
>
> providing a representation of the product having the visual effect based on the information relating to the additive.

a. The Examiner's Rejection.

In the rejection of independent claim 1, the Examiner asserted that the Pringle reference discloses all of the recited features except that it does not expressly disclose "providing a representation of the product having the visual effect based on the information relating to the additive." *See* Final Official Action mailed July 29, 2004, pp. 3-4. In an attempt to cure this deficiency, the Examiner relied upon the Computer Images reference to disclose this claimed subject matter.

However, despite the Examiner's assertions, the Pringle and Computer Images references fail to render the claimed subject matter obvious. In particular, the Pringle and Computer Images references fail to disclose or suggest "providing a representation of the product having the visual effect based on the information relating to the additive," as recited in claim 1. Furthermore, the Examiner's rationale for combining the references appears to be based on potential advantages hypothesized by the Examiner, not on the teachings supported by evidence in the art. Hence, the Pringle and Computer Images references are improperly asserted against the claimed subject matter and cannot render the claimed subject matter obvious.

b. References Fail to Disclose or Suggest Providing a Representation of the Product having the Visual Effect.

To begin, Appellants note that the Examiner admitted that the Pringle reference fails to disclose or suggest providing a representation of the product having the visual

effect "based on the information relating to the additive. Indeed, in contrast to the claimed subject matter, the Pringle reference describes a technique for characterizing a coating having a pigment and metallic flakes. *See* Pringle, col. 1, lines 11-15. In the reference, paint having metal flakes is subjected to one or more beams of light and the reflectance of the light is measured. *See id.* at Fig. 1; col. 2, lines 26-47; col. 3, lines 30-41. The Pringle system measures the light at the specular and non-specular angles as a function of wavelength to determine the ratio of pigment absorption to pigment scattering, K/S. *See id.* at col. 3, line 43 – col. 4, line 20. Accordingly, the Pringle reference simply determines the characteristics of paint having a pigment and metallic flakes. Thus, the Pringle reference fails to disclose the claimed subject matter.

In an attempt to cure this deficiency, the Examiner relied upon the Computer Images reference to disclose "providing a representation of the product having the visual effect based on the information relating to the additive," as recited in claim 1. The Computer Images reference simply describes that computerized manufacturing, such as computer-aided engineering, is beneficial to reduce costs associated with building prototypes within a shortened cycle time. *See* Computer Images, p. 102. Further, the Computer Images reference describes how ray tracing may be utilized to imitate the intricate play of light in a scene. *See id.*, p. 68. Thus, at best, the Computer Images reference teaches that a computer may present images based on various lighting sources. Clearly, the reference does not disclose *providing a representation of a product having a visual effect based on the information related to the additive.* Indeed, the Computer Images reference does not even mention the use of visual effects in objects presented by the ray tracing technique. As such, because the Computer Images reference does not disclose or suggest the claimed subject matter admitted by the Examiner to be missing from Pringle, the Computer Images reference fails to cure the deficiency of the Pringle reference.

c. The Examiner's Rational is unsupported by the References.

In addition to the missing recited features, the Examiner's rationale for combining the references appears to be based on potential advantages hypothesized by the Examiner, not on the teachings in references themselves. Specifically, the Examiner stated that the motivation to combine the references would be to achieve "enormous gains in productivity" to reduce the number of trial coatings. *See* Final Official Action mailed July 29, 2004, p. 4. However, this statement is a broad and unsupported assertion about the teachings of the references. The Examiner has not provided any evidence of suggestion by the prior art references that the proposed advantages would be expected from the combination.

Indeed, if one of ordinary skill in the art were to combine the teachings of Pringle with those of the Computer Images reference, Appellants submit that the combination would not yield the subject matter recited in independent claim 1. As noted above, the Pringle reference simply discloses a method for characterizing a coating having a pigment and metallic flakes. *See* Pringle, col. 1, lines 11-15. In the reference, the paint has metal flakes and is subjected to one or more beams of light to determine the ratio of pigment absorption to pigment scattering, K/S. *See id.* at col. 3, line 43 – col. 4, line 20. Accordingly, the Pringle reference simply determines the characteristics of paint having a pigment and metallic flakes. Further, the Computer Images reference simply describes how ray tracing may be utilized to imitate the play of light in a scene. *See id.* p. 68.

Thus, at best, the combination would yield a method that allows one to create images of the characterization performed in the Pringle reference. The method would not allow one to design a product having a visual effect caused by an additive, as recited in the present claim. Clearly, the proposed combination does not contemplate the capability of allowing one to design a product having a visual effect caused by an additive. Accordingly, because no teaching or suggestion supporting

the combination is present, the Examiner's proposed combination is unsupported speculation and therefore is not proper.

For at least these reasons, the Pringle and Computer Images references cannot be properly combined to render claim 1 obvious. Accordingly, Appellants request the Board overturn the rejection and allow rejected claim 1.

C. Second Ground of Rejection:

The Examiner rejected claims 2-11 and 49-59 under 35 U.S.C. § 103(a) as being unpatentable over the Pringle reference in view of the Computer Images, McKay, and Computer Security references. While the Examiner rejected each of the claims 2-11 and 49-59 under the same proposed combination of prior art, claims 49-59, which includes independent claim 49, and claims 2-11 will be discussed separately below. Accordingly, because Appellants traverse the rejection, Appellants request the Board overturn the rejection and allow the rejected claims 2-11 and 49-59.

1. Claim 49 and Dependent Claims 50-59 are Patentable over Pringle, Computer Images, McKay, and Computer Security.

Independent claim 49 recites:

> At least one program storage device readable by a machine, tangibly embodying at least one program of instructions executable by the machine to perform a method for enabling design of a product having a visual effect caused by an additive, the method comprising:
>
> obtaining information relating to the additive; and
>
> providing a representation of the product having the visual effect based on the information relating to the additive.

a. The Examiner's Rejection.

In the rejection of independent claim 49, the Examiner again relied upon the rejection of claim 1 to assert that the Pringle reference discloses all of the recited features except that it does not expressly disclose "providing a representation of the product having the visual effect based on the information relating to the additive." *See* Final Official

Action mailed July 29, 2004, pp. 3-4 and 11. Accordingly, Appellants assume that the Examiner is again relying on the Computer Images reference to cure the deficiencies of the Pringle reference.

However, despite the Examiner's assertions, the Pringle, Computer Images, McKay and Computer Security references fail to render the claimed subject matter obvious. In particular, the Pringle, Computer Images, McKay and Computer Security references fail to disclose or suggest "providing a representation of the product having the visual effect based on the information relating to the additive," as recited in claim 49. Furthermore, the Examiner's rationale for combining the references appears to be based on potential advantages hypothesized by the Examiner, not on the teachings supported by evidence in the art. Hence, the Pringle, Computer Images, McKay and Computer Security references are improperly asserted against the claimed subject matter and cannot render the claimed subject matter obvious, as discussed below.

b. References Fail to Disclose or Suggest Providing a Representation of the Product having the Visual Effect.

To begin, Appellants note that the Pringle and Computer Images references fail to disclose the claimed subject matter for at least the same reasons presented above in discussing the rejection of claim 1. In short, the Examiner admitted that the Pringle reference does not expressly disclose the claimed subject matter. Indeed, the Pringle reference simply determines the characteristics of paint already having a pigment and metallic flakes. The Computer Images reference fails to cure this deficiency because the Computer Images reference simply describes that ray tracing may be utilized to imitate the intricate play of light in a scene. *See id.* p. 68. Thus, the Pringle and Computer Images references, alone or in combination, do not disclose or suggest *providing a representation of a product having a visual effect based on the information related to the additive.*

While the Examiner does not rely on the Computer Security reference to disclose this missing subject matter, it fails to cure the deficiencies of the Pringle and Computer Images references. The Computer Security reference simply describes controlling access to computer files. *See* Computer Security, p. 76. In the reference, a user may be granted different levels of access to different files, such as read access or write access. *See id.* at pp. 76 and 77. Thus, at best, the reference discloses different privileges provided to users coupled to a network. Clearly, the reference does not disclose providing a representation of a product, much less, *providing a representation having a visual effect based on the information related to the additive*. As such, because Computer Security does not disclose the claimed subject matter, the Computer Security reference fails to cure the deficiency of the Pringle and Computer Images references, as discussed above.

Furthermore, while the Examiner does not rely on the McKay reference to disclose this missing subject matter, it also fails to cure the deficiencies of the Pringle, Computer Images and Computer Security references. The McKay reference describes a method of providing metal powder pigments, which include substantially spherical pigment particles to increase reflectivity. *See* McKay, col. 2, lines 28-63. In the reference, the metal powder pigment may be utilized to reduce the problems with flow lines and weld lines that are associated with molded plastics. *See id.* at col. 3, lines 54-65. Clearly, the reference does not disclose providing a representation of a product, much less, *providing a representation having a visual effect based on the information related to the additive*. As such, because McKay does not disclose the claimed subject matter, the McKay reference fails to cure the deficiency of the Pringle, Computer Images and Computer Security references, as discussed above.

c. <u>The Examiner's Rational is unsupported by the References.</u>

Furthermore, the Examiner's rationale for combining the references appears to be based on potential advantages hypothesized by the Examiner, not on the teachings in references themselves. Specifically, the Examiner stated that the motivation for the combination is to achieve "enormous gains in productivity" to

reduce the number of trial coatings, to be able to "improve the detail and accuracy of the Pringle model," and to "save time by organizing sets of related images in a database." *See* Final Official Action mailed July 29, 2004, pp. 6 and 11. However, these statements are broad and unsupported assertions about the teachings of the references. The Examiner has not provided any evidence or suggestion by or in the prior art references that the proposed advantages would be expected or are even possible from the combination. Indeed, as noted above in the discussion of claim 1, Appellants submit that the combination does not yield the subject matter recited in independent claim 49.

Further, the McKay, and Computer Security references do not provide any support for the Examiner's assertion that the references enable a user to design a product having a visual effect caused by an additive, as recited in claim 49. In the McKay reference, a method provides metal powder pigments, which are utilized to reduce the problems associated with flow lines and weld lines of molded plastic. *See id.* at col. 3, lines 54-65. The Computer Security reference simply describes that different privileges are provided to different users coupled to a network. As a result, the references do not contemplate the capability of allowing one to design a product having a visual effect caused by an additive. Accordingly, because no teaching or suggestion supporting the combination is present, the Examiner's proposed combination is unsupported speculation and therefore is not proper.

For at least these reasons, the Pringle, Computer Images, McKay, and Computer Security references cannot be properly combined to render the Appellants' claims obvious. Accordingly, Appellants request the Board overturn the rejection and allow the rejected claims 49-59.

2. Claims 2-11 are Patentable over The Pringle, Computer Images, McKay, and Computer Security References.

Claims 2-11 depend from independent claim 1. Appellants believe that claims 2-11 are patentable based upon their dependency upon independent claim 1, and for their separate subject matter. In the rejection, the Examiner relied upon the McKay and Computer Security references to disclose the claimed subject matter recited in claims 2-11. However, as noted above, the Computer Security reference simply describes controlling access to computer files with different levels of access to files. *See id.* at pp. 76 and 77. Further, the McKay reference describes a method of providing metal powder pigments, which include substantially spherical pigment particles to increase reflectivity. Thus, the McKay and Computer Security references fail to disclose or suggest all of the recited features of independent claim 1, which is not disclosed by the Pringle or Computer Images references. As a result, the McKay and Computer Security references do not cure the deficiencies of the Pringle or Computer Images references.

Therefore, the Pringle, Computer Images, McKay, and Computer Security references, alone or in the proposed combination, fail to disclose or suggest all of the recited features. Accordingly, Appellants request that the Board overturn the rejection and indicate the allowability of the pending claims 2-11.

D. Third Ground of Rejection:

The Examiner rejected claims 12 and 25 under 35 U.S.C. § 103(a) as being unpatentable over the Pringle reference in view of the Computer Images and Communications references. While the Examiner rejected each of the independent claims 12 and 25 under the same proposed combination of prior art, each of these independent claims will be discussed separately below. Accordingly, because Appellants traverse the rejection, Appellants request the Board overturn the rejection and allow the rejected claims 12 and 25.

1. Claim 12 is Patentable over Pringle, Computer Images, and Communications.

Independent claim 12 recites:

> A method for enabling design of a product having a visual effect caused by an additive, the method comprising:
> obtaining information relating to the additive from a first user at a first computing unit coupled via a communications network to a second computing unit; and
> providing from the second computing unit a representation of the product having the visual effect for display on the first computing unit based on the information relating to the additive.

a. The Examiner's Rejection.

In the rejection of independent claim 12, the Examiner asserted that the Pringle reference discloses all of the recited features except that it does not expressly disclose "providing a representation of the product having the visual effect based on the information relating to the additive" and "first computing unit coupled via a communication network to a second computing unit." *See* Final Official Action mailed July 29, 2004, pp. 6-7. In an attempt to cure this deficiency, the Examiner relied upon the Computer Images reference and the Communications reference. Specifically, the Examiner again relied upon the Computer Images reference to disclose "providing a representation of the product having the visual effect based on the information relating to the additive." The Examiner relied upon the Communications reference to disclose "first computing unit coupled via a communication network to a second computing unit."

Despite the Examiner's assertions, the Pringle, Computer Images and Communications references fail to render the claimed subject matter obvious. In particular, the Pringle, Computer Images and Communications references fail to disclose or suggest "providing from the second computing unit a representation of the product having the visual effect for display on the first computing unit based on the information relating to the additive," as recited in claim 12. Furthermore, the Examiner's rationale for combining the references appears to be based on potential advantages hypothesized

by the Examiner, not on the teachings supported by evidence in the art. Hence, the Pringle, Computer Images and Communications references are improperly asserted against the claimed subject matter and cannot render the claimed subject matter obvious, as discussed below.

b. The References Fail to Disclose or Suggest *Providing a Representation of the Product having the Visual Effect.*

To begin, Appellants again note that the Pringle and Computer Images references fail to disclose the claimed subject matter for at least the same reasons presented above in discussing the rejection of claim 1. In short, the Examiner admitted that the Pringle reference does not expressly disclose the claimed subject matter. Further, the Computer Images reference does not cure this deficiency of the Pringle reference because the Computer Images reference simply describes that ray tracing may be utilized to imitate the intricate play of light in a scene. *See id.* p. 68. Thus, the Pringle and Computer Images references, alone or in combination, do not disclose or suggest *providing a representation of the product having the visual effect for display on a first computing unit based on the information relating to the additive.*

While the Examiner does not rely on the Communications reference to disclose this missing subject matter, it fails to cure the deficiencies of the Pringle and Computer Images references. The Communications reference simply describes different types of networks that are utilized to provide users with access to each other in different geographical locations. *See* Communications, pp. 66-67. In the reference, a user may communicate with various other users via the network. *See id.* at p. 67. Thus, the reference only discloses that a network may be utilized to enable communication between different computing devices. Clearly, the reference does not disclose a representation of a product, much less, *providing a representation having a visual effect based on the information related to the additive*. As such, because Communications does not disclose

the claimed subject matter, the Communications reference fails to cure the deficiency of the Pringle and Computer Images references, as discussed above.

c. The Examiner's Rational is unsupported by the References.

Moreover, the Examiner's rationale for combining the references appears to be based on potential advantages hypothesized by the Examiner, not on the teachings in references themselves. Specifically, the Examiner stated that the motivation for the combination would be to achieve "enormous gains in productivity" to reduce the number of trial coatings and to provide this "simulation efficiently to many users." *See* Final Official Action mailed July 29, 2004, p. 7. However, this statement is a broad and unsupported assertion about the teachings of the references. The Examiner has not provided any evidence or suggestion by or in the prior art references that the proposed advantages would be expected or even possible from the combination. Indeed, as noted above the discussion of claim 1, Appellants submit that the combination does not yield the subject matter recited in independent claim 12. Because the combination does not contemplate the capability of allowing one to design a product having a visual effect caused by an additive, the method does not provide support for a user designing a product having a visual effect caused by an additive, as recited in claim 12. Further, the Communications reference, which merely discussed the general operation of a network, does not provide any support for the Examiner's assertions. Thus, because no teaching or suggestion supporting the combination is present, the Examiner's proposed combination is unsupported speculation and therefore is not proper.

For at least these reasons, the Pringle, Computer Images and Communications references cannot be properly combined to render the Appellants' claim obvious because the references fail to disclose all of the recited features and the Examiner's rationale is unsupported by the references. Accordingly, Appellants request the Board overturn the rejection and allow rejected claim 12.

2. Claim 25 is Patentable over Pringle and Computer Images.

Independent claim 25 recites:

> A system for enabling design of a product having a visual effect caused by an additive, said system comprising:
> at least one processor adapted to obtain information relating to the additive; and
> said at least one processor adapted to provide a representation of the product having the visual effect based on the information relating to the additive.

a. The Examiner's Rejection.

In the rejection of independent claim 25, the Examiner asserted that the Pringle reference discloses all of the recited features except that it does not expressly disclose "providing a representation of the product having the visual effect based on the information relating to the additive," "first computing unit coupled via a communication network to a second computing unit" and a "processor." *See* Final Official Action mailed July 29, 2004, pp. 9-10. In an attempt to cure this deficiency, the Examiner relied upon the Computer Images reference and the Communications reference. Specifically, the Examiner again relied upon the Computer Images reference to disclose providing "a representation of the product having the visual effect based on the information relating to the additive" and "at least one processor." In addition, the Examiner relied upon the Communications reference to disclose "first computing unit coupled via a communication network to a second computing unit." However, Applicants note that this last passage is not even recited in claim 25.

Despite the Examiner's assertions, the Pringle, Computer Images and Communications references fail to render the claimed subject matter obvious. In particular, the Pringle, Computer Images and Communications references fail to disclose or suggest "at least one processor adapted to provide a representation of the product having the visual effect based on the information relating to the additive," as recited in claim 25. Furthermore, the Examiner's rationale for combining the references appears to be based on potential advantages hypothesized by the Examiner, not on the teachings

supported by evidence in the art. Hence, the Pringle, Computer Images and Communications references are improperly asserted against the claimed subject matter and cannot render the claimed subject matter obvious, as discussed below.

b. The References Fail to Disclose or Suggest a *Processor Adapted to Provide a Representation of the Product having the Visual Effect.*

Again, Appellants note that the Pringle, Computer Images and Communications references fail to disclose the claimed subject matter for at least the same reasons presented above in discussing the rejection of claim 12. In short, the Examiner admitted that the Pringle reference does not expressly disclose the claimed subject matter. Because the Computer Images reference simply describes that ray tracing may be utilized to imitate the intricate play of light in a scene, the Computer Images reference does not cure this deficiency of the Pringle reference. Finally, the Communications reference simply describes different types of networks that are utilized to provide users with access to each other in different geographical locations. Thus, the Pringle, Computer Images and Communications references, alone or in combination, do not disclose or suggest a *processor adapted to provide a representation of the product having the visual effect for display on a first computing unit based on the information relating to the additive.*

c. The Examiner's Rational is unsupported by the References.

Moreover, as discussed above, the Examiner's rationale for combining the references appears to be based on potential advantages hypothesized by the Examiner, not on the teachings in references themselves for at least the same reasons presented above in discussing the rejection of claim 12. In short, the Examiner's rationale for the combination is a broad and unsupported assertion about the teachings of the references. The Examiner has not provided any evidence or suggestion by or in the prior art references that the proposed advantages would be expected from the combination. Indeed, as noted above, Appellants submit that the combination does not yield the subject matter recited in independent claim 25.

Because the combination does not contemplate the capability of allowing one to design a product having a visual effect caused by an additive, it does not support the alleged motivation for the combination. Accordingly, because no teaching or suggestion supporting the combination is present, the Examiner's proposed combination is unsupported speculation and therefore is not proper.

For at least these reasons, the Pringle, Computer Images and Communications references cannot be properly combined to render the Appellants' claim obvious because the references fail to disclose all of the recited features and the Examiner's rationale is unsupported by the references. Accordingly, Appellants request the Board overturn the rejection and allow rejected claim 25.

E. Fourth Ground of Rejection:

The Examiner rejected claims 13-24, 26-35, 36-48, and 60-72 under 35 U.S.C. § 103(a) as being unpatentable over the Pringle reference in view of the Computer Images, McKay, Computer Security, and Communications references. While the Examiner rejected each of the claims 13-24, 26-35, 36-48, and 60-72 under the same proposed combination of prior art, independent claims 36 and 60 along with their respective dependent claims will be discussed separately from claims 13-24 and claims 26-35. Accordingly, because Appellants traverse the rejection, Appellants request the Board overturn the rejection and allow the rejected claims 13-24, 26-35, 36-48, and 60-72.

1. Claims 36-48 are Patentable over Pringle and Computer Images, McKay, Computer Security, and Communications references.

Independent claim 36 recites:

> A system for enabling design of a product having a visual effect caused by an additive, said system comprising:
> means for obtaining information relating to the additive from a first user at a first computing unit coupled via a communications network to a second computing unit; and
> means for providing from the second computing unit a representation of the product having the visual effect for

display on the first computing unit based on the information relating to the additive.

a. The Examiner's Rejection.

In the rejection of independent claim 36, the Examiner relied upon the rejection of claim 12 as a basis to assert that all of the claimed subject matter of claim 36 is disclosed by the prior art. It is assumed that the Examiner is asserting that the Pringle reference discloses all of the recited features except that it does not expressly disclose "providing a representation of the product having the visual effect based on the information relating to the additive" and "first computing unit coupled via a communications network to a second computing unit." *See* Final Official Action mailed July 29, 2004, pp. 6-7 and 10-11. Accordingly, Appellants assume that the Examiner is again relying on the Computer Images and Communications references to cure the deficiencies of the Pringle reference.

However, despite the Examiner's assertions, the Pringle, Computer Images, McKay, Computer Security and Communications references fail to render the claimed subject matter obvious. In particular, the Pringle, Computer Images, McKay, Computer Security and Communications references fail to disclose or suggest "means for providing from the second computing unit a representation of the product having the visual effect for display on the first computing unit based on the information relating to the additive," as recited in claim 36. Furthermore, the Examiner's rationale for combining the references again appears to be based on potential advantages hypothesized by the Examiner, not on the teachings supported by evidence in the art. Hence, the Pringle, Computer Images, McKay, Computer Security and Communications references are improperly asserted against the claimed subject matter and cannot render the claimed subject matter obvious, as discussed below.

b. References Fail to Disclose or Suggest Providing a Representation of the Product having the Visual Effect.

To begin, Appellants note that the Pringle, Computer Images and Communications references fail to disclose the claimed subject matter for at least the

same reasons presented above in discussing the rejection of claim 12. In short, the Examiner admitted that the Pringle reference does not expressly disclose the claimed subject matter. Because the Computer Images reference simply describes that ray tracing may be utilized to imitate the intricate play of light in a scene, the Computer Images reference does not cure this deficiency of the Pringle reference. Finally, the Communications reference simply describes different types of networks that are utilized to provide users with access to each other in different geographical locations. Thus, the Pringle, Computer Images and Communications references, alone or in combination, do not disclose or suggest a *processor adapted to provide a representation of the product having the visual effect for display on a first computing unit based on the information relating to the additive.*

Furthermore, while the Examiner does not rely on the Computer Security or McKay references to disclose this claimed subject matter, each of these references fails to cure the deficiencies of the Pringle, Computer Images and Communications references. As noted above, the Computer Security and McKay references do not disclose the claimed subject matter for at least the same reasons presented above in discussing the rejection of claim 49. Indeed, the Computer Security reference simply describes that users may have different levels of authorization to files. Further, the McKay reference simply describes that a metal powder pigment may be utilized to reduce the problems with flow lines and weld lines that are associated with molded plastics. Thus, the Computer Security or McKay references do not disclose providing a representation of a product, much less, *providing a representation having a visual effect based on the information related to the additive*. As such, because Computer Security or McKay references do not disclose the claimed subject matter, the Computer Security or McKay references cannot cure the deficiency of the Pringle, Computer Images and Communication references.

c. The Examiner's Rational is unsupported by the References.

Moreover, the Examiner's rationale for combining the references again appears to be based on potential advantages hypothesized by the Examiner, not on the teachings in references themselves. As discussed above the in the rejection of claims 1 and 12, the Examiner motivation for the combinations is merely broad and unsupported assertions about the teachings of the references. The Examiner has not provided any evidence or suggestion by or in the prior art references that the proposed advantages would be expected from the combination. Thus, at least for the reasons presented above, Appellants submit that the combination does not yield the subject matter recited in independent claim 36. That is, the proposed combination does not contemplate the capability of allowing one to design a product having a visual effect caused by an additive. Accordingly, because no teaching or suggestion supporting the combination is present, the Examiner's proposed combination is unsupported speculation and therefore is not proper.

For at least these reasons, the Pringle, Computer Images, McKay, Computer Security and Communications references cannot be properly combined to render the Appellants' claim obvious. Accordingly, Appellants request the Board overturn the rejection and allow rejected claims 36-48.

2. Claims 60-72 are Patentable over Pringle and Computer Images, McKay, Computer Security, and Communications references.

Independent claim 60 recites:

> An article of manufacture comprising:
> at least one computer usable medium having computer readable program code means embodied therein for enabling design of a product having a visual effect caused by an additive, the computer readable program code means in said article of manufacture comprising:
> computer readable program code means for causing a first computing unit to obtain information relating to the additive from a first user at the first

computing unit coupled via a communications network to a second computing unit; and

computer readable program code means for causing the second computing unit to provide a representation of the product having the visual effect for display on the first computing unit based on the information relating to the additive.

a. The Examiner's Rejection

In the rejection of independent claim 60, the Examiner again relied upon the rejection of claim 12 as a basis for asserting that the Pringle reference discloses all of the recited features of claim 60 except that it does not expressly disclose "providing a representation of the product having the visual effect based on the information relating to the additive" and "first computing unit coupled via a communications network to a second computing unit." *See* Final Official Action mailed July 29, 2004, pp. 6-7 and 11. Accordingly, Appellants assume that the Examiner is again relying on the Computer Images and Communications references to cure the deficiencies of the Pringle reference.

However, despite the Examiner's assertions, the Pringle, Computer Images, McKay, Computer Security and Communications references fail to render the claimed subject matter obvious. In particular, the Pringle, Computer Images, McKay, Computer Security and Communications references fail to disclose or suggest "computer readable program code means for causing the second computing unit to provide a representation of the product having the visual effect for display on the first computing unit based on the information relating to the additive," as recited in claim 60. Furthermore, here again the Examiner's rationale for combining the references appears to be based on potential advantages hypothesized by the Examiner, not on the teachings supported by evidence in the art. Hence, the Pringle, Computer Images, McKay, Computer Security and Communications references are improperly asserted against the claimed subject matter and cannot render the claimed subject matter obvious, as discussed below.

b. References Fail to Disclose or Suggest *Code for Providing a Representation of the Product having the Visual Effect.*

Appellants note that the Pringle, Computer Images, McKay, Computer Security and Communications references fail to disclose the claimed subject matter for at least the same reasons presented above in discussing the rejection of claim 36. In short, the Examiner admitted that the Pringle reference does not expressly disclose the claimed subject matter. Because the Computer Images reference simply describes that ray tracing may be utilized to imitate the intricate play of light in a scene, the Computer Images reference does not cure this deficiency of the Pringle reference. Further, the Communications, McKay and Computer Security references are unrelated to *providing a representation of the product having the visual effect based on the information relating to the additive.* Thus, the Pringle, Computer Images, McKay, Computer Security and Communications references, alone or in combination, do not disclose or suggest the claimed subject matter.

c. The Examiner's Rational is unsupported by the References.

Moreover, as noted above, the Examiner's rationale for combining the references again appears to be based on potential advantages hypothesized by the Examiner, not on the teachings in references themselves. As discussed above the in regards the rejection of claim 36, the Examiner motivation for the combination is based on the broad and unsupported assertions about the teachings of the references. The Examiner has not provided any evidence or suggestion by or in the prior art references that the proposed advantages would be expected from the combination. Thus, at least for the reasons presented above, Appellants submit that the combination does not yield the subject matter recited in independent claim 60. That is, the proposed combination does not contemplate the capability of allowing one to design a product having a visual effect caused by an additive. Accordingly, because no teaching or suggestion supporting the combination is present, the Examiner's proposed combination is unsupported speculation and therefore is not proper.

For at least these reasons, the Pringle, Computer Images, McKay, Computer Security and Communications references cannot be properly combined to render the Appellants' claim obvious because the references fail to disclose all of the recited features and the Examiner's rationale is unsupported by the references. Accordingly, Appellants request the Board overturn the rejection and allow rejected claims 60-72.

3. Claims 13-24 and 26-35 are Patentable over Pringle, Computer Images, McKay, Computer Security, and Communications.

Claims 13-24 depend from independent claim 12, while claims 26-35 depend from independent claim 25. Appellants believe that claims 13-24 and 26-35 are patentable based upon their dependency upon their respective independent claims, and for their additional subject matter. In the rejection, the Examiner relied upon the McKay and Computer Security references to disclose the claimed subject matter recited in claims 13-24 and 26-35. However, as noted above in the discussion of claim 36, the Computer Security references simply describes controlling access to computer files with different levels of access to files. Further, the McKay reference describes a method of providing metal powder pigments which include substantially spherical pigment particles to have increased reflectivity. Thus, the McKay and Computer Security references fail to disclose or suggest all of the recited features of independent claims 12 and 25. As a result, the McKay and Computer Security references do not cure the deficiencies of the Pringle, Computer Images and Communications references.

Therefore, the Pringle, Computer Images, McKay, Computer Security, and Communications references, alone or in the proposed combination, fail to disclose or suggest all of the recited features. Accordingly, Appellants request that the Board overturn the rejection and indicate the allowability of the pending claims 13-24 and 26-35.

CONCLUSION

In view of the above remarks, Appellants respectfully submit that the Examiner has provided no supportable position or evidence that claims 1-72 are rendered obvious in view of the prior art. Accordingly, Appellants respectfully request that the Board find claims 1-72 patentable over the prior art of record and reverse all outstanding rejections.

Fee and General Authorization for Extensions of Time

In accordance with 37 C.F.R. § 1.136, Appellants hereby authorize the Commissioner to charge the requisite fee of $500.00, and any additional fees which may be required, to Account No. 07-0868, Order No. RD27538-4/YOD (GERD:0385). Further, Appellants hereby provide a general authorization to treat this and any future reply requiring an extension of time as incorporating a request therefor. Accordingly, Appellants authorize the Commissioner to charge the appropriate fee for any extension of time to the above-referenced Deposit Account.

Respectfully submitted,

Date: January 4, 2005

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8. APPENDIX OF CLAIMS ON APPEAL

1. A computer-implemented method for enabling design of a product having a visual effect caused by an additive, the method comprising:

obtaining information relating to the additive; and

providing a representation of the product having the visual effect based on the information relating to the additive.

2. The computer-implemented method of claim 1 wherein the information relating to the additive comprises information relating to a flake material, and wherein the providing comprises providing the representation of the product based on the information relating to the flake material.

3. The computer-implemented method of claim 2 wherein the information relating to the flake material comprises a type of flake material and a concentration of the flake material, and wherein the providing comprises providing the representation of the product based on the information relating to the type of the flake material and the concentration of the flake material.

4. The computer-implemented method of claim 1 wherein the information relating to the additive comprises information relating to a diffuser material, and wherein the providing comprises providing the representation of the product based on the information relating to the diffusion material.

5. The computer-implemented method of claim 4 wherein the information relating to a diffuser material comprises a type of diffuser material, a concentration of the diffuser material, a thickness of the product, and a distance between the product and an object to be observed behind the product, and wherein the providing comprises providing the representation of the product with the object behind the product based on the information relating to the type of diffuser material, the concentration of the diffuser material, the

thickness of the product, and the distance between the product and an object behind the product.

6. The computer-implemented method of claim 1 further comprising obtaining information relating to the color of the product, and wherein the providing comprises providing the representation of the product based on the information relating to the color and the information relating to the additive.

7. The computer-implemented method of claim 1 wherein the providing comprises at least one of retrieving the representation from a database of representations associated with a plurality of products having visual effects, and computer generating the representation of the product having the visual effect.

8. The computer-implemented method of claim 1 further comprising storing the representation of the product having the visual effect, and allowing authorized access the representation of the product having the visual effect.

9. The computer-implemented method of claim 1 further comprising obtaining a request for a physical sample of the product having the visual effect.

10. The computer-implemented method of claim 1 further comprising determining ingredients and concentrations for producing the product having the visual effect.

11. The computer-implemented method of claim 1 wherein the product comprises a plastic material.

12. A method for enabling design of a product having a visual effect caused by an additive, the method comprising:

obtaining information relating to the additive from a first user at a first computing unit coupled via a communications network to a second computing unit; and

providing from the second computing unit a representation of the product having the visual effect for display on the first computing unit based on the information relating to the additive.

13. The method of claim 12 wherein the information relating to the additive comprises information relating to a flake material, and wherein the providing comprises providing the representation of the product based on the information relating to the flake material.

14. The method of claim 13 wherein the information relating to the flake material comprises a type of flake material and a concentration of the flake material, and wherein the providing comprises providing the representation of the product based on the information relating to the type of the flake material and the concentration of the flake material.

15. The method of claim 12 wherein the information relating to the additive comprises information relating to a diffuser material, and wherein the providing comprises providing the representation of the product based on the information relating to the diffusion material.

16. The method of claim 15 wherein the information relating to a diffuser material comprises a type of diffuser material, a concentration of the diffuser material, a thickness of the product, and a distance between the product and an object to be observed behind the product, and wherein the providing comprises providing the representation of the product with the object behind the product based on the information relating to the type of diffuser material, the concentration of the diffuser material, the thickness of the product, and the distance between the product and an object behind the product.

17. The method of claim 12 further comprising obtaining information relating to the color of the product, and wherein the providing comprises providing the representation of the product based on the information relating to the color and the information relating to the additive.

18. The method of claim 12 wherein the providing comprises at least one of retrieving the representation from a database of representations associated with a plurality of products having visual effects, and computer generating the representation of the product having the visual effect.

19. The method of claim 12 further comprising storing the representation of the product having the visual effect at the second computing unit, and allowing authorized access to the representation of the product having the visual effect by at least one second user at at least one third computing unit.

20. The method of claim 12 further comprising obtaining a request at the second computing unit for a physical sample of the product having the visual effect from the first computing unit.

21. The method of claim 12 further comprising determining at the second computing unit ingredients and concentrations for producing the product having the visual effect.

22. The method of claim 12 wherein the product comprises a plastic material.

23. The method of claim 12 wherein the communications network is a global computer network.

24. The method of claim 12 further comprising transferring, from the second computing unit, a module for representing a plurality of products having a plurality of the additives to the first computing unit.

25. A system for enabling design of a product having a visual effect caused by an additive, said system comprising:

at least one processor adapted to obtain information relating to the additive; and

said at least one processor adapted to provide a representation of the product having the visual effect based on the information relating to the additive.

26. The system of claim 25 wherein the information relating to the additive comprises information relating to a flake material, and wherein the representation of the product is based on the information relating to the flake material.

27. The system of claim 26 wherein the information relating to the flake material comprises a type of flake material and a concentration of the flake material, and wherein the representation of the product is based on the information relating to the type of the flake material and the concentration of the flake material.

28. The system of claim 25 wherein the information relating to the additive comprises information relating to a diffuser material, and wherein the representation of the product is based on the information relating to the diffusion material.

29. The system of claim 28 wherein the information relating to a diffuser material comprises a type of diffuser material, a concentration of the diffuser material, a thickness of the product, and a distance between the product and an object to be observed behind the product, and wherein the representation of the product with the object behind the product is based on the information relating to the type of diffuser material, the concentration of the diffuser material, the thickness of the product, and the distance between the product and an object behind the product.

30. The system of claim 25 wherein said at least one processor is adapted to obtain information relating to the color of the product, and wherein the representation of the product is based on the information relating to the color and the information relating to the additive.

31. The system of claim 25 wherein said at least one processor is adapted to at least one of retrieve the representation from a database of representations associated with a plurality of products having visual effects, and computer generate the representation of the product having the visual effect.

32. The system of claim 25 wherein said at least one processor is adapted to store the representation of the product having the visual effect, and to allow authorized access the representation of the product having the visual effect.

33. The system of claim 25 where said at least one processor is adapted to obtain a request for a physical sample of the product having the visual effect.

34. The system of claim 25 wherein said at least one processor is adapted to determine ingredients and concentrations for producing the product having the visual effect.

35. The system of claim 25 wherein the product comprises a plastic material.

36. A system for enabling design of a product having a visual effect caused by an additive, said system comprising:

means for obtaining information relating to the additive from a first user at a first computing unit coupled via a communications network to a second computing unit; and

means for providing from the second computing unit a representation of the product having the visual effect for display on the first computing unit based on the information relating to the additive.

37. The system of claim 36 wherein the information relating to the additive comprises information relating to a flake material, and wherein the representation of the product is based on the information relating to the flake material.

38. The system of claim 37 wherein the information relating to the flake material comprises a type of flake material and a concentration of the flake material, and wherein the representation of the product is based on the information relating to the type of the flake material and the concentration of the flake material.

39. The system of claim 36 wherein the information relating to the additive comprises information relating to a diffuser material, and wherein the representation of the product is based on the information relating to the diffusion material.

40. The system of claim 39 wherein the information relating to a diffuser material comprises a type of diffuser material, a concentration of the diffuser material, a thickness of the product, and a distance between the product and an object to be observed behind the product, and wherein the representation of the product with the object behind the product is based on the information relating to the type of diffuser material, the concentration of the diffuser material, the thickness of the product, and the distance between the product and an object behind the product.

41. The system of claim 36 further comprising means for obtaining information relating to the color of the product, and wherein the representation of the product is based on the information relating to the color and the information relating to the additive.

42. The system of claim 36 further comprising at least one of means for retrieving the representation from a database of representations associated with a plurality of products having visual effects, and means for computer generating the representation of the product having the visual effect.

43. The system of claim 36 further comprising means for storing the representation of the product having the visual effect at the second computing unit, and means for allowing the authorized access to the representation of the product having the visual effect by at least one second user at at least one third computing unit.

44. The system of claim 36 further comprising means for obtaining a request at the second computing unit for a physical sample of the product having the visual effect from the first computing unit.

45. The system of claim 36 further comprising means for determining at the second computing unit ingredients and concentrations for producing the product having the visual effect.

46. The system of claim 36 wherein the product comprises a plastic material.

47. The system of claim 36 wherein the communications network is a global computer network.

48. The system of claim 36 further comprising means for transferring, from the second computing unit, a module for representing a plurality of products having a plurality of the additives to the first computing unit.

49. At least one program storage device readable by a machine, tangibly embodying at least one program of instructions executable by the machine to perform a method for enabling design of a product having a visual effect caused by an additive, the method comprising:

obtaining information relating to the additive; and

providing a representation of the product having the visual effect based on the information relating to the additive.

50. The at least one program storage device of claim 49 wherein the information relating to the additive comprises information relating to a flake material, and wherein the providing comprises providing the representation of the product based on the information relating to the type of the flake material.

51. The at least one program storage device of claim 50 wherein the information relating to the flake material comprises a type of flake material and a concentration of the flake material, and wherein the providing comprises providing the representation of the product based on the information relating to the type of the flake material and the concentration of the flake material.

52. The at least one program storage device of claim 49 wherein the information relating to the additive comprises information relating to a diffuser material, and wherein the providing comprises providing the representation of the product based on the information relating to the diffusion material.

53. The at least one program storage device of claim 52 wherein the information relating to a diffuser material comprises a type of diffuser material, a concentration of the diffuser material, a thickness of the product, and a distance between the product and an object to be observed behind the product, and wherein the providing comprises providing the representation of the product with the object behind the product based on the information relating to the type of diffuser material, the concentration of the diffuser material, the thickness of the product, and the distance between the product and an object behind product.

54. The at least one program storage device of claim 49 further comprising obtaining information relating to the color of the product, and wherein the providing comprises providing the representation of the product based on the information relating to the color and the information relating to the additive.

55. The at least program storage device of claim 49 wherein the providing comprises at least one of retrieving the representation from a database of representations associated with a plurality of products having visual effects, and computer generating the representation of the product having the visual effect.

56. The at least one program storage device of claim 49 further comprising storing the representation of the product having the visual effect, and allowing authorized access the representation of the product having the visual effect.

57. The at least one program storage device of claim 49 further comprising obtaining a request for a physical sample of the product having the visual effect.

58. The at least one program storage device of claim 49 further comprising determining ingredients and concentrations for producing the product having the visual effect.

59. The at least one program storage device of claim 49 wherein the product comprises a plastic material.

60. An article of manufacture comprising:

at least one computer usable medium having computer readable program code means embodied therein for enabling design of a product having a visual effect caused by an additive, the computer readable program code means in said article of manufacture comprising:

computer readable program code means for causing a first computing unit to obtain information relating to the additive from a first user at the first computing unit coupled via a communications network to a second computing unit; and

computer readable program code means for causing the second computing unit to provide a representation of the product having the visual effect for display on the first computing unit based on the information relating to the additive.

61. The article of manufacture of claim 60 wherein the information relating to the additive comprises information relating to a flake material, and wherein the providing comprises providing the representation of the product is based on the information relating to the flake material.

62. The article of manufacture of claim 61 wherein the information relating the to the flake material comprises a type of flake material and a concentration of the flake material, and wherein the representation of the product is based on the information relating to the type of the flake material and the concentration of the flake material.

63. The article of manufacture of claim 60 wherein the information relating to the additive comprises information relating to a diffuser material, and wherein the representation of the product is based on the information relating to the diffusion material.

64. The article of manufacture of claim 63 wherein the information relating to a diffuser material comprises a type of diffuser material, a concentration of the diffuser material, a thickness of the product, and a distance between the product and an object to be observed behind the product, and wherein the representation of the product with the object behind the product is based on the information relating to the type of diffuser material, the concentration of the diffuser material, the thickness of the product, and the distance between the product and an object behind the product.

65. The article of manufacture of claim 60 further comprising computer readable program code means for causing the first computing unit to obtain information relating to the color of the product, and wherein the representation of the product is based on the information relating to the color and the information relating to the additive.

66. The article of manufacture of claim 60 further comprising computer readable program code means for causing at least one of the first and second computing units to at

least one of retrieve the representation from a database of representations associated with a plurality of products having visual effects, and to computer generate the representation of the product having the visual effect.

67. The article of manufacture of claim 60 further comprising computer readable program code means for causing the second computing unit to store the representation of the product having the visual effect, and computer readable code means for causing the second computing unit to allow authorized access to the representation of the product having the visual effect by at least one second user at at least one third computing unit.

68. The system of claim 60 further comprising computer readable program code means for causing the second computing unit to obtain a request for a physical sample of the product having the visual effect from the first computing unit.

69. The system of claim 60 further comprising computer readable program code means for causing the second computing unit to determine ingredients and concentrations for producing the product having the visual effect.

70. The system of claim 60 wherein the product comprises a plastic material.

71. The system of claim 60 wherein the communication network is a global computer network.

72. The system of claim 60 further comprising computer readable program code means for causing the second computing unit to transfer a module for representing a plurality of products having a plurality of the additives to the first computing unit.